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PATENT CLAIMS

1. A method for providing parking aid for a vehicle, comprising the steps
recording ambient data in the external area of a vehicle,
calculation of the dimensions of a specific area using the recorded ambient data, and
evaluation of the suitability of the specific area as a parking space taking into account the calculated dimensions and known, vehicle-specific reference values,
characterized in that the recording of ambient data comprises recording three-dimensional images of the surroundings by means of an optical 3-D system.

2. The method as claimed in claim 1, wherein the recording of ambient data comprises the recording a situation image of the entire area of interest.

3. The method as claimed in claim 1 or 2, wherein the recording of ambient data comprises the successive recording of adjacent component images of the area of interest.

4. The method as claimed in one of claims 1 to 3, wherein a topographical image of the specific area is created on the basis of the recorded ambient data.

5. The method as claimed in one of the preceding claims, wherein an obstacle in the specific region is detected on the basis of the recorded surroundings.

6. The method as claimed in one of claims 1 to 5, wherein a result of the evaluation step is signaled to a driver of the vehicle.

7. The method as claimed in one of claims 1 to 6, wherein, in addition to the calculation of the dimensions of the specific area, the position of the specific area with respect to the vehicle is determined on the basis of the recorded ambient data.

8. The method as claimed in claim 7, wherein the calculated dimensions and position of the specific area are transmitted to a control system for an automatic parking system.

9. A device for providing parking aid for a vehicle, comprising a sensor device for recording ambient data in the external area of a vehicle, and an evaluation device for calculating the dimensions of a specific area on the basis of the recorded ambient data and for evaluating the suitability of the specific area as a parking space on the basis of the calculated dimensions and known, vehicle-specific reference values, characterized in that the sensor device comprises an optical 3-D sensor system for recording three-dimensional images of the surroundings.

10. The device according to claim 9, wherein the evaluation circuit determines the dimensions of the specific area on the basis of a situation image of the entire area of interest.

11. The device as claimed in claim 9 or 10, wherein the evaluation circuit determines the dimensions of the specific area on the basis of a plurality of successively recorded component images of the area of interest, wherein the various component images are correlated with one another by way of a determined vehicle velocity.

12. The device as claimed in one of claims 9 to 11, wherein the sensor device operates in the infrared range.

13. The device as claimed in one of claims 9 to 12, wherein the evaluation device is coupled to an information system for outputting a result of the evaluation step to a driver of the vehicle.

14. The device as claimed in one of claims 9 to 13, wherein the evaluation unit has means for determining the position of the specific area with respect to the vehicle.

15. The device as claimed in claim 14, wherein the evaluation device is coupled to a control system for an automatic parking system in order to transmit dimension data and position data of the specific area.

16. The device as claimed in one of claims 9 to 15, wherein the optical 3-D sensor system is mounted on the vehicle, in the external area of the vehicle.